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EXAMINER

NGUYEN, LONG T

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/072,872

Applicant(s)

KANAMORI ET AL.

Examiner

Long Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,6,8-20,22,24,25 and 27-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,8-20,22,24,25,27-35 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is responsive to the amendment filed on 6/1/04.

Drawings

2. The drawings filed on 6/1/04 have been received. However, these drawings are not approved and are not entered because the new drawings (Figures 26-32) include new matter so they are objected to under 35 U.S.C. 132. Clearly, the description on lines 6-10 of page 20 of the original specification does not support the fact that a transistor 30' (i.e., a transistor for keeping a minute current to flow and also for supplying a drive current at the time of signal determination) is connected in parallel to transistor 30 which are shown in new drawings (Figures 26-32).

Specification

3. The amendment filed on 6/1/04 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: new drawings (Figures 26-32) and the description to Figures 26-32 (i.e., the new paragraphs added to pages 23 and 26 in the amended to specification) .

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

4. Claims 17, 19, 36 and 39 are objected to because of the following informalities:

In claim 17, line 10, it appears that "a differential input signal" should be changed to --
"the different signal-- (see line 2 of the claim).

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In claim 19, for the purpose of clarity, it is suggest to change "further comprising:" on line 2 --wherein the receiving circuit further comprising--; and change "equalizer circuit, receiving the" to --equalizer circuit coupled between the transmission circuit and the amplifier circuit, wherein the equalizer circuit receiving the--.

In claim 36, line 11, it is suggested that "circuit, receiving" be changed to --circuit for receiving--.

In claim 39, line 10, it appears that "a differential input signal" should be changed to -- "the different signal-- (see line 2 of the claim).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 3, 5, 6, 8-19, 22, 24, 25, 27-35, 38 and 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claim 1, the original disclosure, at the time of filing the application, does not disclose any differential amplifier circuit which includes a third transistor for keeping a minute current to flow and also for supplying a drive current at the time of signal determination, and also including a fourth transistor as recited in the claim.

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Claims 3, 5, 6 and 8-16 depend on claim 1, so they are rejected under 35 U.S.C. 112, first paragraph, for the same reason as in claim 1.

Also, with respect to claim 15, the original disclosure, at the time of filing the application, does not disclose any differential amplifier circuit which includes a third transistor, a fourth transistor and, and an eighth transistor as recited in the claim.

With respect to claim 17, the original disclosure, at the time of filing the application, does not disclose any differential amplifier circuit which includes a third transistor for keeping a minute current to flow and also for supplying a drive current at the time of signal determination, and also including a fourth transistor as recited in the claim.

Claims 18, 19, 22, 27-35 depend on claim 17, so they are rejected under 35 U.S.C. 112, first paragraph, for the same reason as in claim 17. Note that claims 24 and 25 may be depended on claim 17, and if they are, then they are also rejected under 35 U.S.C. 112, first paragraph, for the same reason.

Also, with respect to claim 34, the original disclosure, at the time of filing the application, does not disclose any differential amplifier circuit which includes a third transistor, a fourth transistor and, and an eighth transistor as recited in the claim.

With respect to claims 38 and 39, the original disclosure, at the time of filing the application, does not disclose any differential amplifier circuit which includes a third transistor for keeping a minute current to flow and also for supplying a drive current at the time of signal determination, and also including an eighth transistor as recited in the claim.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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8. Claims 1, 3, 5, 6, 8-20, 22, 24, 25, 27-35 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, as amended, is indefinite because “a drive current” on line 12 is unclear antecedent basis since it is not clear whether it is the same as “a drive current” on line 10, so it is not clear whether they are the same current or not.

Claims 3, 5, and 8-16 depend on claim 1 depends on claim 1, so they include the indefinite problem of claim 1.

Claim 5, “for constantly supplying the minute current during operation of said differential amplifier” is indefinite because it is inconsistent with independent claim 1. Note that, claim 1 recites the third transistor providing both minute current and also drive current during the operation, so the third transistor cannot constantly supplying the minute current.

Claim 6, “a gate width of said third transistor is smaller than a gate width of said fourth transistor” is misdescriptive because the disclosure only discloses that a gate width of said third transistor is smaller than a gate width of said fourth transistor, wherein the third transistor is for constantly keeping the minute current to flow (i.e., not for the case the third transistor for providing both the minute current and also the drive current).

Claim 15 is misdescriptive because there is no such amplifier with the third, fourth and eight transistors as in claim 15.

Claim 17, as amended, is indefinite because “a drive current” on line 16 is unclear antecedent basis since it is not clear whether it is the same as “a drive current” on line 14, so it is also not clear whether they are the same current or not.

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Claims 18, 19, 22, 27-35 depend on claim 17, so they include the indefinite problem of claim 17.

Claim 20, as amended, is indefinite for the following reasons:

First, there are numerous “.” (period) in the claim (on lines 24, 28 and 32), so it is not clear where exactly the claim is ended. To overcome this problem, it is suggested to change “.” on line 24 and 28 to --;--.

Further, “a semiconductor integrated circuit device” on line 11 is indefinite because it is not clear how each receiving unit can comprises “a semiconductor integrated circuit device” because the preamble of the claim clearly indicates that “a semiconductor integrated circuit device comprising the receiving circuit, wherein the receiving circuit includes a plurality of receiving units”. To overcome this problem, it is suggested to delete “a semiconductor integrated circuit device having” on line 11.

Further, “a differential signal” on line 12 and “a differential input signal” on line 19 are unclear since it is not known if they are referring to “a differential signal” on line 3, or the “Inter-Symbol Interference removed differential signal” on line 31 . Also, “the Inter-Symbol Interference removed differential signal” on line 31 lacks antecedent basis. To overcome these problems, it is suggested to change “a differential signal” on line 12 to --an Inter-Symbol Interference removed differential signal--, and change “a differential input signal” on line 19 to --the Inter-Symbol Interference removed differential signal--.

Further, “said semiconductor integrated circuit is a receiving circuit ... transmission path” on lines 21 is indefinite because “a receiving circuit” is unclear (i.e., is it the same as the

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receiving circuit recited earlier on line 5); “a signal transmission system” appears to be the same as “a signal transmission circuit” on line 3; and “a signal transmission path” is unclear (see line 4). It appears that “wherein said ... transmission path” on lines 21-24 is redundant to the limitations recited on the first 6 lines of the claim, and therefore it is suggested “wherein said ... transmission path” on lines 21-24 be deleted.

Further, it is not clear which element comprising “an equalizer circuit ... amplified circuit” on the last 4 lines of the claim (i.e., is each of the plurality of receiving units further comprising “an equalizer circuit ... amplified circuit” on the last 4 lines of the claim?). To overcome this problem, it is suggested to change the recitation “an equalizer circuit, receiving the” on line 29 to --wherein each of the plurality of receiving units further comprising an equalizer circuit for receiving the--.

Claims 24 and 25 depends on a cancel claim so it is not clear which claim these claims depend on. If they are depending on claim 17, then claim 24 is also indefinite for the similar reason as discussed in claim 5, and claim 25 is also indefinite for the similar reason as discussed in claim 6 above.

Claim 34 is indefinite for the similar reason as in claim 15, i.e., there is no such amplifier with the third, fourth and eight transistors.

Claim 37, as amended, is indefinite because it is not clear whether the claim means a receiving circuit and further comprising a plurality of receiving units in addition to a differential amplifier circuit, a latch circuit and an equalizer circuit (recited in claim 36); or the receiving circuit comprising a plurality of receiving units wherein each unit comprising the differential

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amplifier circuit, the latch circuit and the equalizer circuit. If it means or the receiving circuit comprising a plurality of receiving units wherein each unit comprising the differential amplifier circuit, the latch circuit and the equalizer circuit, then it is suggested to change "the receiving circuit comprising:" on line 4 of claim 36 to --the receiving circuit comprising a receiving unit, wherein the receiving unit comprising:--; and change "the receiving circuit comprises a" on line 2 of claim 37 to --the receiving circuit further comprising additional--.

Allowable Subject Matter

9. Claim 36 would be allowed if amended as suggested above.

Claim 36 is allowed because the prior art of record fails to disclose or suggest the receiving unit including a differential amplifier circuit, a latch circuit, a clock source, and an equalizer circuit, wherein the equalizer circuit for receiving the differential signal, removing an inter-symbol interference of the differential signal by a partial response detection, and outputting the inter-symbol interference removed differential signal to the differential amplifier circuit.

10. Claims 20 and 37 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim 20 would be allowed for the similar reason as indicated in claim 36 above.

Claim 37 would be allowed because it depends on claim 36.

Response to Arguments

11. Applicant's arguments filed on 6/1/04 have been fully considered but they are not persuasive.

Applicant argues that the new drawings (Figures 26-32) and the amended to the specification on 6/1/04 recited the configurations for the pending claims. However, the new

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drawings and the amended to the specification are objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. Note that 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention.

Applicant argues that "it is disclosed at page 20, lines 6-10, that the fourth to eighth embodiments described above, like the third embodiment shown in Figure 11A, can also be so configured that a single transistor 30' having the gate thereof supplied with the current control signal CCS functions as both the transistor 30 and the transistor 3". This argument is not persuasive because it is clearly that the description on lines 6-10 of page 20 does not support the fact that a transistor 30' (i.e., a third transistor for keeping a minute current to flow and also for supplying a drive current at the time of signal determination as recited in the claim) is connected in parallel to transistor 30 which are shown in new drawings (Figures 26-32). Thus, at the time of filing the application, the original disclosure does not have the possession of transistor 30' in parallel with transistor 30 as shown in new drawings (Figures 26-32), wherein transistor 30' functions for keeping a minute current to flow and also for supplying a drive current at the time of signal determination as recited in the claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directly to Examiner Long Nguyen whose telephone number is (571) 272-1753. The Examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached at (571) 272-1740. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 18, 2004



Long Nguyen
Primary Examiner
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